# DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

## LAKE TROPHIC DATA

## MORPHOMETRIC:

Lake: DENNIS	ON POND	Lake Area (ha):	4.86
Town:	FRANCESTOWN	Maximum depth (m):	2.2
County:	Hillsborough	Mean depth (m):	1.0
River Basin:	Merrimack	Volume (m³):	47000
Latitude:		Relative depth:	0.9
Longitude:	71°45'42" W	Shore configuration:	3.83
Elevation (f	t): 750	Areal water load (m/yr):	
	(m): 2995	Flushing rate $(yr^{-1})$ :	9.90
Watershed ar		P retention coeff.:	0.56
<pre>% watershed</pre>	ponded: 0.0	Lake type: n	atural

BIOLOGICAL:	20 February 2001	29 August 2000
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 60%	TINY PENNATE DIATOM SPP 70
#2	(ALL ALGAE SPARSE)	
#3		
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		20.22
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 70%	POLYARTHRA 33%
#2	KERATELLA 17%	NAUPLIUS LARVA 24%
#3		COLLOTHECA 22%
ROTIFERS/LITER	484	566
MICROCRUSTACEA/LITER	<1	205
ZOOPLANKTON ABUNDANCE (#/L)	506	798
VASCULAR PLANT ABUNDANCE		Common/Abun
SECCHI DISK TRANSPARENCY (m)		1.4
BOTTOM DISSOLVED OXYGEN (mg/L)	1.0	5.1
BACTERIA (E. coli, #/100 ml) #1		10
#2		15
#3		

## SUMMER THERMAL STRATIFICATION:

## not stratified

Depth of thermocline (m): None Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : None

CHEMICAL:			DENNISON FRANCESTO		
	20 Febru	uary 2001	29 1	August 200	00
DEPTH (m)	1.5		1.0		2.0
pH (units)	6.1		7.1		6.7
A.N.C. (Alkalinity)	11.6		8.1		7.9
NITRATE NITROGEN	0.07		< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.61		0.45		0.47
TOTAL PHOSPHORUS	0.005		0.014		0.018
CONDUCTIVITY (µmhos/cm)	48.0		31.7		31.7
APPARENT COLOR (cpu)	38		33		34
MAGNESIUM			0.60		
CALCIUM			3.0		
SODIUM			2.4		
POTASSIUM			0.50		
CHLORIDE	2		< 2		< 2
SULFATE	4		2		. 2
TN : TP	136		32		26
CALCITE SATURATION INDEX					

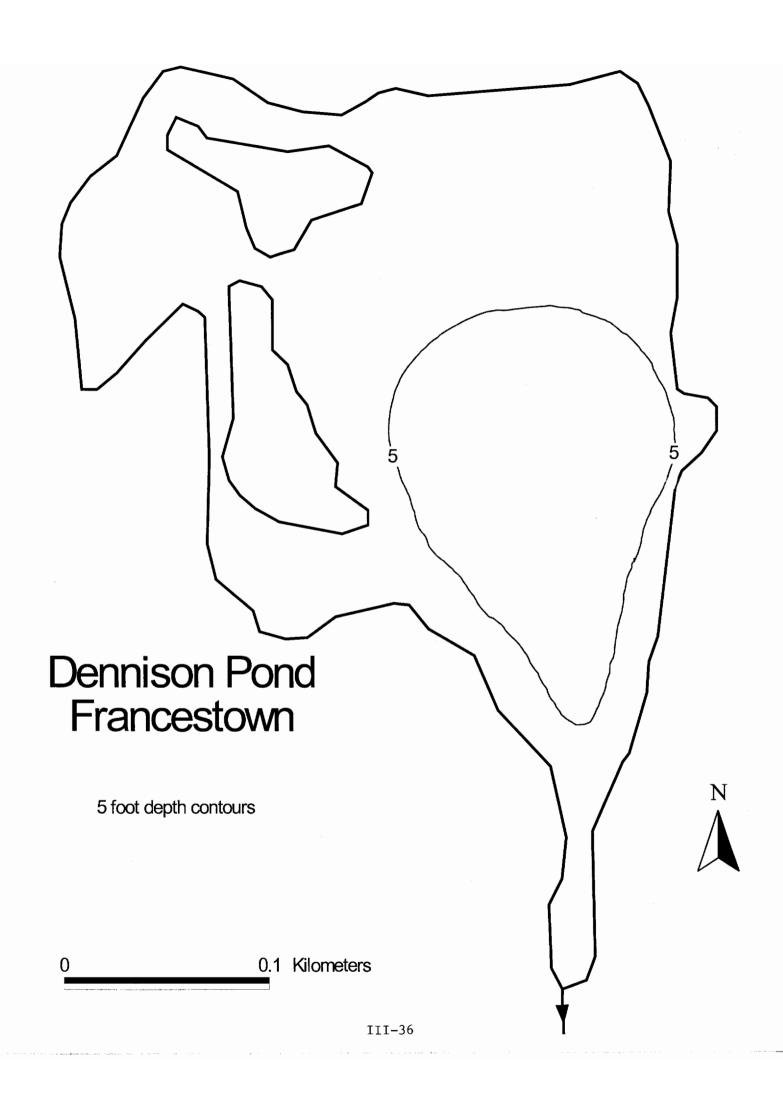
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2000

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	4	4	12	Eutro.

# COMMENTS:

1. This is a shallow, eutrophic, circumneutral (pH near 7) pond with elevated plant and algal growth.



## FIELD DATA SHEET

LAKE: DENNISON POND DATE: 08/29/2000

TOWN: FRANCESTOWN

WEATHER: sunny, warm, slight breeze

		, Dilli, Di				
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION			
0.1	23.7	8.9	105 %			
0.5	23.5	8.9	105 %			
1.0	23.1	8.8	103 %			
1.5	22.7	9.1	105 %			
2.0	21.8	5.1	58 %			
		1				

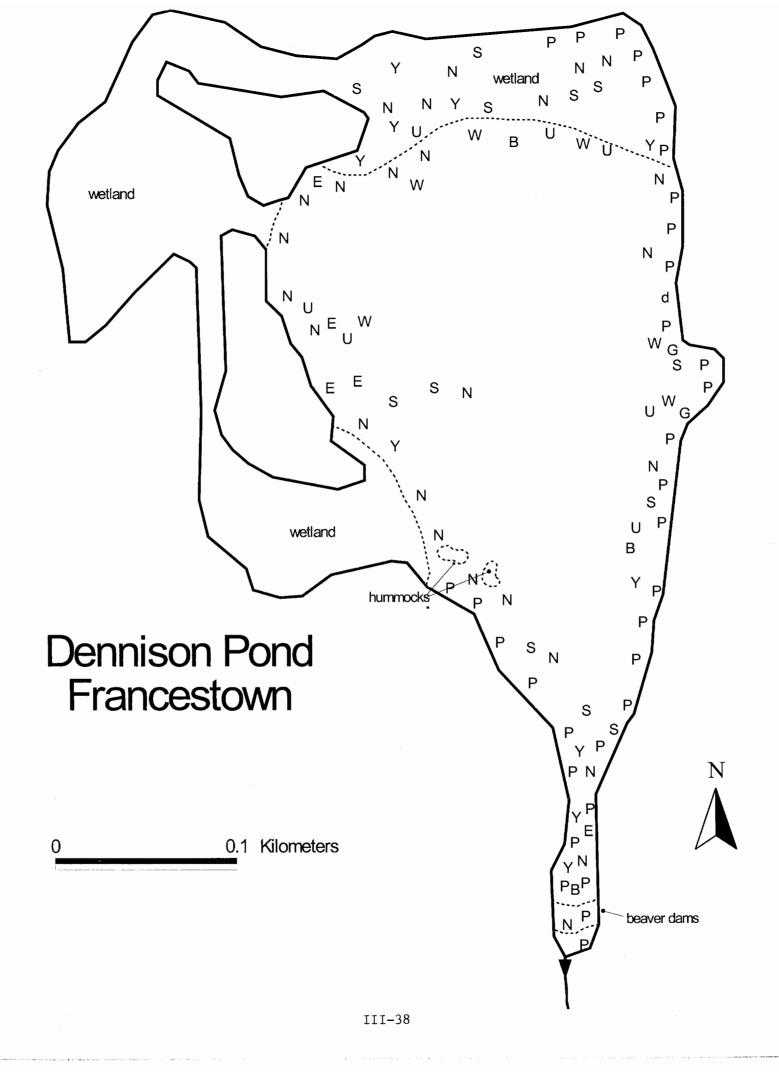
SECCHI DISK (m): 1.4

BOTTOM DEPTH (m): 2.2

TIME: 1159

COMMENTS:

\*Dissolved oxygen values are in mg/L



## AQUATIC PLANT SURVEY

PLANT NAME       GENERIC     COMMON       Postederia cordata     Pickerelweed     Scat/co       N Nymphaea     White water lily     Common       S Sparganium     Bur reed     Scat/Co       Y Nuphar     Yellow water lily     Scat/Co       U Utricularia     Bladderwort     Common       W Potamogeton     Pondweed     Scatter       G Gramineae     Grass family     Sparse       B Brasenia schreberi     Water shield     Sparse       E Eriocaulon septangulare     Pipewort     Scatter       Scatter	2000
GENERIC COMMON  P Pontederia cordata Pickerelweed Scat/Co  N Nymphaea White water lily Common  S Sparganium Bur reed Scat/Co  Y Nuphar Yellow water lily Scat/Co  U Utricularia Bladderwort Common  W Potamogeton Pondweed Scatter  d Dulichium arundinaceum Three-way sedge Scatter  G Gramineae Grass family Sparse  B Brasenia schreberi Water shield Sparse	NCE
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E Eriocaulon septangulare Pipewort Scatter	
	ed

## OVERALL ABUNDANCE: Common/Abun

## GENERAL OBSERVATIONS:

- 1. Northern and northwestern areas were marshy areas; vegetation was too dense for navigation.
- 2. The "common/abundant" rating is for the open water areas only. It would be "very abundant" if the wetland areas were included.
- Plant hummocks and shoreline plants not in the water (and not reported above) included cattails, swamp loosestrife, leatherleaf, buttonbush, grasses and shrubs.